

Commonwealth of Kentucky's Prosperity through AgriTech Hub (Kentucky's PATH): EDA Build Back Better Regional Challenge - Phase 1 Concept Proposal Narrative

I. Introduction

Dire Need

In Kentucky, the steep national decline in coal power generation and employment has decimated thousands of rural, underserved communities and families who have traditionally relied upon jobs in this industry for their livelihoods. From 2001-2021, coal mining in Kentucky experienced a steeper decline than almost anywhere else in the country: mining jobs, mines, and tons of coal produced all fell by more than 78% (KYSTATS, 2021). More recently, the COVID-19 pandemic has caused widespread uncertainty.

Meanwhile, the United Nations predicts the growing global population will require 70% more food by 2050. At status quo, there would need to be a second Earth to have enough resources to meet demand. The world's current food system is not sustainable and food security, equity, and justice are of ever-growing concerns. Climate change, increasing catastrophic weather events, wildfires, and the distance it takes to ship certain produce are all problems that hinder progress toward the future of food. A technological solution and targeted investment would create efficiencies and health outcomes to meet demands and create a healthy food future for the world.

Vision

The Commonwealth of Kentucky's Prosperity through AgriTech Hub (Kentucky's PATH) presents a once-in-a-generation opportunity to transform an entire region by attracting thousands of well-paying jobs and directing game-changing investment to one of the most coal-dependent and economically-depressed parts of the country: Eastern Kentucky/Appalachia. The Commonwealth of Kentucky, who will serve as the Lead Institution, is proposing five tightly-aligned projects that will revolve around the construction of a new state-of-the-art AgriTech research and development (ARD) center, focusing on controlled-environment agricultural (CEA) production, horticultural innovation, and technological solutions, in the heart of Eastern Kentucky. Companion initiatives will spark and cultivate ancillary business and educational opportunities through partnerships with a coalition of public, private, academic, and non-profit organizations.

Kentucky's PATH places equity at the center by focusing its benefits on economically-distressed Persistent Poverty Counties (PPCs) located in the heart of the Appalachian Region. Kentucky's PATH is "shovel-ready" with a site selected and studied. The proposal will build on a strong foundation and accelerate existing momentum in the state's AgriTech sector, including \$160 million in public and private investment already committed. AppHarvest, Kentucky Fresh Harvest, AppleAtcha, and other coalition partners prove the model we have in Kentucky, developing CEA in the state with multiple facilities throughout Eastern Kentucky and an education and workforce component. The model is inspired by the world's leader in indoor agriculture, the Netherlands, where high-tech greenhouses yield 30-times more crops compared with traditional agriculture, utilize less harmful chemical pesticides, and capitalize on efficient post-processing and distribution chains. Kentucky's PATH will propel forward a June 2020 collaborative agreement between 17 U.S. and Dutch entities to establish an "Agriculture Technology Ecosystem" in Kentucky. The opportunity is to capture and promote an est. \$10 billion AgriTech sector in Eastern Kentucky.

Strategy

Kentucky's PATH will support cluster-based economic development in the following ways: (1) constructing new shared physical space and infrastructure in Eastern Kentucky, including a state-of-the-art ARD center and space for education and community connection with entrepreneurship opportunities; (2) matching skilled workers to attract cluster firms and anticipating and implementing assets for the workforce to evolve as the cluster specializes; (3) growing a vibrant industry with new jobs and creating an environment that facilitates knowledge exchange and innovation, including launching a Global Food Chain Startup Challenge; (4) creating inclusive employment opportunities through responsive talent development, retention programs, and recruiting companies; (5) establishing a high-skilled, remote-capable, and resilient workforce in Eastern Kentucky to meet the needs of new and existing AgriTech ventures.

Economic Opportunity/Potential Impact

Kentucky's PATH will spur the creation of thousands of direct and indirect jobs in economically-devastated PPCs across Eastern Kentucky. One estimate places the addressable market for indoor greenhouse companies in the U.S. at \$10 billion (Wageningen University, 2021). This level of investment would create over 6,500 acres of greenhouses and 30,000 direct jobs in Eastern Kentucky. The proposal would create thousands more indirect jobs in manufacturing, services, logistics, and technology. This is what has developed in the Netherlands over the past 50 years; today, over 10,000 companies support the industry. Kentucky's PATH will focus on capturing as much of the U.S. market as possible and spreading benefits equitably.

The Kentucky Center for Statistics forecasts the AgriTech industry will add \$194,342,970 in new revenue to the local economy between 2022-2027. Through job creation and provision of family-supporting wages, Kentucky's PATH will seek to reverse Eastern Kentucky's status one of the most economically-distressed parts of the country, based on three key indicators: three-year average unemployment rate, per capita market income, and poverty rate.

Coalition Members

The Commonwealth of Kentucky has convened a broad and diverse array of coalition members and partners from across the state who will lead Kentucky's PATH into the future. The following organizations and representatives form the KY PATH Leadership Team: the Commonwealth of Kentucky, the University of Kentucky (UK) (Mark Williams), UK Innovate (Ian McClure), Shaping Our Appalachian Region (SOAR) (Colby Hall), Access Ventures (Rebecca Rice), and AppHarvest (Amy Samples). A coalition of organizations are committed to collaborating with the KY PATH Leadership Team on planning and execution (see Letters of Support):

- Dutch Ambassador and Ministry of Agriculture, Nature and Food Quality; NL Works
- Economic development agencies/investors: Southeast Kentucky Economic Development, Launch Blue, Awesome Inc.
- Workforce Innovation Boards (WIBs) (EKCEP, FIVCO) and Area Development Districts (Big Sandy ADD, Kentucky River ADD, Cumberland Valley ADD)
- Academia: UK, Eastern Kentucky University, Morehead State University, University of Pikeville, Berea College, Kentucky Community and Technical College System (KCTCS)
- Industry: KY Fresh Harvest, AppleAtcha, Cultural Cornerstones
- Local Government: Morgan, Menifee Rowan County (MMRC) Industrial Park (three County Judge Executives), City of Morehead, Rowan County

- Non-profits: Foundation for Appalachian Kentucky, James Graham Brown Foundation, KY Horticultural Council, One East Kentucky

Primary fiscal fiduciary responsibility will be overseen by the Kentucky Department of Workforce Investment (DWI). DWI has experience overseeing the fiscal management of more than \$2 billion (primarily federal) dollars. DWI has approximately 18 employees working on grant monitoring, performance, and technical assistance. During Phase I, there are plans to hire a **Regional Competitiveness Officer** to coordinate day-to-day project responsibilities.

II. Project Descriptions

KY PATH proposes to execute five projects that are clustered under three major initiatives.

AgriTech Innovation Hub

Project #1 – ARD Construction: KY PATH will construct the ARD center, a CEA research and development facility for sustainable agriculture methods. The “Case Study: KY HortiCenter” report (HortiTech, 2021), facility overview, design, and specifications are available upon request. Coalition Lead: Commonwealth of Kentucky

Partners: Dutch Ambassador + Ministry of Agriculture, Nature and Food Quality, MMRC Regional Business Park. Industry: AppHarvest. Non-profit: KY Horticulture Council, academia.

Project #2 – R&D Center: KY PATH will establish a research & development program to innovate current agricultural technologies such as CEA production, storage improvements, waste management, and distribution. The project will foster an AgriTech launch-pad for testing engineering, artificial intelligence, sensors, and robotics that will transform our nation’s food supply and contribute to food resiliency.

Coalition Lead: Commonwealth of Kentucky

Partners: A Regional Competitiveness Officer in partnership with the 17-party U.S.-Dutch Consortium and additional local representatives will guide AgriTech thought-leadership, market problem identification, research and development processes, education and workforce training.

Measurable Intermediate Outcomes of Projects 1 and 2: Number of construction phases completed, local vendors engaged, jobs created, relative regional wage increase

Metric: GDP growth in ARD center location and surrounding counties

EDA Investment Priority: Recovery and Resilience

Industry and Job Growth

Project #3 – Launch the Ideas: Launch “The Food Chain Global Startup Challenge” to establish a global competition to develop technologies, processes and solutions that sustainably produce, distribute, process, store, manage waste and ensure equity and access related to fresh foods in the Eastern Kentucky corridor. Startups will be eligible to receive a grant to implement their solutions in the region, and international startups will be eligible to receive additional assistance to relocate to Kentucky, creating a vibrant industry there.

Coalition Lead: UK Innovate

Partners: Access Ventures, Launch Blue, Awesome Inc., UK College of Agriculture

Project #4 – Grow the Industry: Create multiple financing methods to support start-ups, business expansion, and new technology adoption within the AgriTech sector. A Food Chain Venture Fund

will be formed with private investment and investment thesis to place seed investments in startups applying to The Food Chain Global Startup Challenge and implementing in Kentucky. Additionally, debt financing vehicles will be offered for startups in need.

Coalition Lead: Access Ventures

Partners: Southeast Kentucky Economic Development (SKED), Invest 606, UK Innovate

Measurable Intermediate Outcomes of Projects 3 and 4: Amount of startup applicants; number of startup accelerator participants; grants/funding awarded to entrepreneurs/businesses

Metrics: Companies relocated; number of new businesses incubated; jobs created; PPCs impacted

EDA Investment Priority: Environmentally Sustainable Development

Talent Development and Retention

Project #5 – Live, Work, Grow: KY PATH will promote Eastern Kentucky as a place to live, work, and grow. This project includes place-based opportunity creation and workforce training, via the Rural Online Initiative and SkillUp Coalition. Investing in quality-of-life initiatives to invigorate coal communities reframes perception and establishes the region as a hub for Appalachian culture. This effort will serve as a point of pride for residents and selling point for employers and companies considering locating an office in the area through Projects 3 and 4. As we work to create good paying jobs throughout distressed communities in Eastern Kentucky, it is essential to create strong communities with strong economic development investments.

Coalition Lead: SOAR

Partners: Foundation for Appalachian Kentucky, Cultural Cornerstones, Appalachian Regional Healthcare, Farmers Markets, Kentucky Education and Workforce Development Cabinet

Measurable Outcomes: Number of students/workforce trained, certificates awarded, and service capacity of downtown projects funded/people reached; local GDP growth; health outcomes tracked to healthy eating programs, participation rate in farmers markets

Metrics: Number of direct and indirect jobs created

EDA Investment Priority: Equity

IV. Matching Funds

The Commonwealth of Kentucky, core partners, and a broad coalition of organizations have pledged time and resources to Kentucky's PATH. Match in Phase II will include cash from the Commonwealth of Kentucky, industry, venture funds and community foundations, plus direct in-kind value of land dedicated to construction projects (e.g., early estimate of the land value is \$25,000/acre for 25 acres), as well as significant staff time dedicated by KY PATH Leadership Team and coalition partners. Importantly, the Commonwealth of Kentucky and Beshear-Coleman Administration are committed to building upon the state's monumental economic development growth and future-forward trajectory by strategically investing in emerging industry projects. The AgriTech sector has grown rapidly in the Commonwealth and promises to continue to positively impact the PPCs in the Appalachian Region. Governor Beshear is committed to providing funding for the Kentucky PATH project in his FY 2022-2024 budget to continue to invest in our state and create quality job opportunities for Kentucky families.

V. Alignment

Kentucky's PATH is aligned with EDA's Investment Priorities in the following key ways:

(1) *Equity:* Less than 1.4% of the U.S. population lives in Kentucky, yet Kentucky contains more than 8% of the country's PPCs. Further, 96% of those counties are located in Eastern Kentucky.

Kentucky's PATH will spread the benefits equitably by focusing more than 30% of the planned area of impact in PPCs located in economically-distressed and historically-underserved areas.

(2) *Recovery and Resilience*: Kentucky's PATH will be built to last with a focus on sparking economic development in a global, high-growth industry to reverse the harmful economic decline in Eastern Kentucky and help distressed coal communities, building and maintaining an AgriTech infrastructure that will attract private investment and new enterprise.

(3) *Workforce Development*: Kentucky's PATH is focused on matching skilled workers to attract cluster firms and creating inclusive employment opportunities through responsive talent development, retention programs, and recruiting companies; establishing a high-skilled, remote-capable, and resilient workforce to meet the needs of new and existing ventures.

(4) *Manufacturing*: Kentucky's PATH capitalizes on Kentucky's profile as a national leader in manufacturing. The sector represents \$37.5 billion of the state's GDP and employs 13% of the state's workforce, compared with the national average of 8.5%.

(5) *Technologically-Based Economic Development*: Kentucky's PATH is focused on developing technological solutions and attracting investment that would create efficiencies and health outcomes to meet the demands of global food supply and create a healthy food future for all.

(6) *Environmentally Sustainable Development*: Kentucky's PATH will capitalize on a leading edge in logistics to enhance sustainable growing practices and reduce fuel consumption by up to 80%.

VI. Barriers and Strategies for Mitigation

- Barrier: Cross-collaboration challenges to a shared vision. Mitigation: Kentucky's PATH will drive change in Eastern Kentucky. By funding a regional cluster of projects, a broad coalition has united around a shared vision, creating a unique atmosphere of regional camaraderie.
- Barrier: ARD center site preparation. Mitigation: Target site location already selected in an established industrial park. Initial engineering and environmental review completed. Secondary engineering studies and permitting will be accomplished during Phase I.
- Barrier: Develop local talent pool. Mitigation: Partner with KCTCS, five universities, WIBs, and ADDs to develop workforce development programs. Leverage federally-supported workforce initiatives, KCTCS workforce training certificate programs, early steps, and stackable credentials. Develop robust telework opportunities and training.
- Barrier: Attracting private investment. Mitigation: Utilize ARD center as incubator space and start-up challenge with funding mechanisms to root new industry and business in local economy.

VII. Timeline and Feasibility

Phase I Milestones + Completion Date
M1: Appoint KY PATH's Regional Competitiveness Officer, for Project Committees and Execute MOU with anchor partners. <i>January 2022</i>
M2: Complete site survey studies and construction RFP for EKY AgriTech Hub. <i>March 2022</i>
M3: Complete KY PATH website, public messaging, and Phase II execution plan. <i>May 2022</i>
M4: Complete partner contracts and infrastructure investments to initiate Projects. <i>June 2022</i>